

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A method to elongate a solder joint, the method comprising:

forming an elongator on a first substrate, wherein the elongator comprises an expander and an encapsulant to encapsulate the expander, the encapsulant being comprised of a thermoplastic;

forming the solder joint to connect the first substrate to a second substrate; and
softening the encapsulant to release the expander from a compressed state to elongate the solder joint.

Claim 2 (Original): The method to elongate a solder joint as recited in claim 1, wherein forming the elongator on the first substrate comprises:

providing a mold having a first mold cavity and a second mold cavity, wherein the first substrate is disposed in the first mold cavity and an expander is disposed in the second mold cavity;

compressing the expander; and
introducing the encapsulant into the mold to encapsulate the expander to form the elongator on the first substrate.

Claim 3 (Original): The method to elongate a solder joint as recited in claim 2, further comprising:

singulating the first substrate.

Claim 4 (Original): The method to elongate a solder joint as recited in claim 3, wherein the first substrate is one of a group consisting of a series of interposers, a series of packages and a wafer.

Claim 5 (Original): The method to elongate a solder joint as recited in claim 2, wherein the first substrate is one of a group consisting of a chip, an interposer, a package, a board and a series of interposers.

Claim 6 (Original): The method to elongate a solder joint as recited in claim 1, wherein the elongator is formed on the first substrate by one of a group consisting of an injection molding process, a compression molding process, a transfer molding process and a casting process.

Claim 7 (Original): The method to elongate a solder joint as recited in claim 1, wherein the encapsulant is an electrical insulator.

Claim 8 (Canceled).

Claim 9 (Currently Amended): The method to elongate a solder joint as recited in claim 8 1, wherein forming the solder joint to connect the first substrate to the second substrate comprises:

melting a plurality of solder deposits to wet a solderable surface to form the solder joint.

Claim 10 (Original): The method to elongate a solder joint as recited in claim 9, wherein the thermoplastic has a softening temperature of approximately 40°C higher than a melting point of the plurality of solder deposits.

Claim 11 (Currently Amended): The method to elongate a solder joint as recited in claim 8 1, wherein the thermoplastic is one of a group consisting of polyamide and polyacetal.

Claim 12 (Original): The method to elongate a solder joint as recited in claim 1, wherein the expander comprises a corrugated strip.

Claim 13 (Original): The method to elongate a solder joint as recited in claim 12, wherein a first end of the corrugated strip overlaps a second end of the corrugated strip.

Claims 14-29 (Canceled).